According to Indonesian experts, Indonesia’s ability to maintain a strong rate of growth is contingent on its exploitation of clean sources of energy for electricity generation.

The country currently relies predominantly on fossil fuels for its power production and it is projected that electricity demand in the country will double over the next decade.

Such experts forewarn that Indonesia must diversify its energy supply or face increased exposure to commodity price risks and exacerbated, potentially unmanageable, environmental problems.

Paying heed to these calls, the Indonesian government has committed to harnessing the country’s clean energy resources and, in particular, its abundant geothermal resources. Due to Indonesia’s straddling of the Eurasian, Pacific and Indo-Australian tectonic plates, it is estimated that the country has over 28,000MW of geothermal resources, representing 40% of the world’s geothermal potential.

However, despite this potential, less than 7% of the country’s geothermal resource base has been developed to-date.

The reason for this underdevelopment lies, in great part, on the high upfront investment costs in the initial resource discovery phase.

Merely establishing the availability of commercially viable resources for a 200MW geothermal plant may require an investment of up to US$200m, far more than for other renewable energy projects, such as wind or solar projects, where resource discovery is less labour and cost intensive.

Recognising these restrictions on geothermal energy’s potential as an engine for Indonesia’s sustainable economic growth, the ADB, supported by the Clean Technology Fund (CTF), sought to stimulate geothermal exploration by providing a US$50m loan to the project.

The facility agreement for this loan was signed on July 4 2014 and financial close occurred on September 26 2014. The ADB exploration loan is the only significant non-recourse loan in which risks were shared with the private sector during the resource discovery phase of a geothermal project, setting a new milestone for the Indonesian geothermal sector and the regional power market.

The ADB exploration loan was taken out and refinanced in March 2018 by the Rantau Dedap project financing.

Project overview

The project is in the vanguard of Indonesia’s new generation geothermal projects and is prioritised under the long-term power development plan of PT PLN (Persero) (PLN), the national electricity utility company.

It involves the exploration and development by PT Supreme Energy Rantau Dedap (the borrower) of the geothermal resource fields in the 354km² Rantau Dedap geothermal working area in the Regency of Muara Enim, located about 225km south-west of Palembang in South Sumatra, Indonesia, under a 35-year geothermal operating licence.

The project has a net capacity of 90.9MW and a design gross capacity of 98.4MW. The project is projected to generate 716.6 gigawatt-hours of geothermal power annually, reducing Indonesia’s carbon dioxide emissions by an estimated 450,000 tons per year.

The borrower has a power purchase agreement with PLN (the PPA) and a business viability guarantee letter from the Ministry of Finance (the BVGL) which will run for 30 years and 15 years, respectively, following commercial operation of the power plant. The project will connect to the Lahat grid owned by PLN, and PLN is responsible for the transmission line that will run from the plant to the substation.

The borrower has appointed a consortium of PT Rekayasa Industri and Fuji Electric Co Ltd as the engineering, procurement and construction contractor and PT Plumpang Raya Anugrah as the drilling rig contractor. The project is expected to employ about 1,200 people at its peak.

The borrower’s sponsors are Marubeni Corporation, Tohoku Electric Power Company Inc, Engie Global Developments BV (a subsidiary of Engie SA) and PT Supreme Energy Sriwijaya (a subsidiary of PT Supreme Energy) (the sponsors).
The US$539m of loans for the Rantau Dedap project financing have a tenor of about 20 years. ADB is providing US$175.3m of the Rantau Dedap project financing and the CTF, administered by ADB, is providing an additional US$50m of funding to refinance or roll over the ADB exploration loan for the first phase of the project. JBIC is providing US$188.8m and another US$125.9m has come from three commercial banks – Mizuho Bank Ltd (Mizuho), MUFG Bank Ltd (formerly known as Bank of Tokyo-Mitsubishi UFJ Ltd), and Sumitomo Mitsui Banking Corporation. The commercial bank loans benefit from NEXI cover.

**Notable features**

The Rantau Dedap project financing was notable for a number of reasons, including:

- **Sponsors** – One of the key factors that facilitated the financing was the strength of the sponsor consortium. In particular, the technical and operational expertise of the sponsors and the depth of their experience in Indonesian and global geothermal power development and generation provided the lenders with confidence in the management of the project.

- Engie SA is an independent power producer with 115.3 gigawatts (GW) of installed power-generation capacity and 19GW of installed power-generation capacity in renewable energy.

- Marubeni Corporation also has an extensive power project deal sheet globally, having successfully explored and developed many projects similar to the project and maintaining a solid reputation in the power market, and further played the role of finance development lead in the project and consortium.

- Tohoku Electric Power Company Inc is one of Japan’s largest electric utilities, with 18.3GW of installed power-production capacity, including 189MW of geothermal power-production capacity and over 40 years of geothermal power-production experience.

- The local partner, PT Supreme Energy, is well known in the Indonesian geothermal power sector – its management team has over 20 years of experience in geothermal development and pioneered geothermal exploration in Indonesia under the 2003 geothermal law.

The presence of these power producers, who seconded personnel to the project, played a significant factor in getting first the ADB exploration loan and then the Rantau Dedap project financing over the line.

- Robust prefeasibility data – Another important element that facilitated the Rantau Dedap project financing was the reliability and comprehensiveness of the prefeasibility data. Extensive geological data on the geothermal resource fields in the Rantau Dedap working area was collected by the Ministry of Energy & Mineral Resources during the prefeasibility stage in 2008–2009. The reliability of this data was an important resource risk mitigant for the lenders.

**Compressed transaction schedule**

The sponsors and lenders executed the Rantau Dedap project financing in record time, completing documentation within around three months and achieving financial close quickly thereafter – a remarkable achievement given the number of bespoke and novel aspects of the project.

The sponsor and lender teams brought together their respective regional, industry and transactional expertise to deliver a seamless, highly satisfactory result for all stakeholders.

**Conclusion**

The project follows Sarulla (2014) and Muara Laboh (2017) as the latest in a series of successfully-executed innovative and ambitious Indonesian geothermal project financings by a group of seasoned sponsors and lenders.

ADB’s exploration loan to the project is a first for the geothermal power sector in Indonesia and the region, while the Rantau Dedap project financing implemented a combination of new and tried-and-tested elements to get the funding for construction in place without delay.

This latest successful mobilisation of financing for Indonesian geothermal projects, and in particular the crucial liquidity provided by ADB’s exploration loan during the resource discovery phase of the project, will hopefully encourage more private investment in this resource and assist in accelerating Indonesia’s much-needed geothermal development.

**TABLE 1 - DEAL PARTICIPANTS**

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<thead>
<tr>
<th>Borrower</th>
<th>PT Supreme Energy Rantau Dedap</th>
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<tbody>
<tr>
<td>Sponsors</td>
<td>Marubeni Corporation, Tohoku Electric Power Company Engie and PT Supreme Energy</td>
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<tr>
<td>Finance parties</td>
<td>ADB, JBIC, NEXI, Mizuho Bank, MUFG Bank, (formerly known as The Bank of Tokyo-Mitsubishi UFJ) Sumitomo Mitsui Banking Corporation</td>
</tr>
<tr>
<td>Power purchaser</td>
<td>PT PLN (Persero)</td>
</tr>
<tr>
<td>International counsels</td>
<td>Latham &amp; Watkins as international counsel to the finance parties Milbank Tweed Hadley &amp;McCloy as international counsel to the Borrower</td>
</tr>
<tr>
<td>Local counsels</td>
<td>Ali Budiarjo, Nugroho, Reksodiputro as Indonesian counsel to the Finance Parties, Hadiputranto, Hadinoto &amp; Partners and Mochtar Karuwin Komar as Indonesian counsels to the Borrower</td>
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